



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,998	03/01/2002	Ernest C. Schroeder	49810-00601	1105

25243 7590 05/13/2005

COLLIER SHANNON SCOTT, PLLC  
3050 K STREET, NW  
SUITE 400  
WASHINGTON, DC 20007

EXAMINER

EASHOO, MARK

ART UNIT	PAPER NUMBER
----------	--------------

1732

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/084,998

Applicant(s)

SCHROEDER, ERNEST C.

Examiner

Mark Eashoo, Ph.D.

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 1-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Khoshevis (US Pat. 5,656,230).

Regarding claims 21 and 25: Khoshevis teaches the claimed process of making a fiber reinforced plastic part, comprising: programming and control/movement of an extrusion head via conventional CNC machines (4:33-47); feeding a fiber reinforcement to the extrusion head (8:43-67 and 5:21-36); impregnating/mixing fibers with a radiation-initiable resin or photopolymer (8:43-50 and 8:24-30); extruding a fiber/resin mixture (Fig. 1); and exposing the extrudate to curing radiation as the fiber/resin mixture is extruded (Fig. 1, elements 22, 31, 44 and 5:8-13).

It is inherent that a CNC machine requires the input of a readable definition of the desired part.

Furthermore, regarding claim 25, it is noted that the cure rate of must be sufficiently coordinated with the travel of the extrusion head since incremental layers are built upon each other. If the cure rate was not sufficient, then the structure would not have the structural integrity to maintain the weight of newly added layers.

Regarding claim 22: Khoshevis further teaches extruding a fiber/resin mixture at a speed consistent to the speed of travel of the extrusion head (Fig. 1). It is noted that if this condition was not taught by Khoshevis then gaps or overflow marks would occur in the formed product.

Regarding claim 23: Khoshevis further teaches moving the extrusion head along a predetermined path that defines the surface of the part (Fig. 1 and 3:48-62).

Regarding claim 24: Although not specifically taught, Khoshevis teaches the extrudate is formed on a base/support structure (bottom of Fig. 1). Since the extruded part contacts the base/support it inherent that there are at least one or more points of attachment to the base/support structure.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art

Art Unit: 1732

to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 26 and 27 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Khoshevis (US Pat. 5,656,230).

Khoshevis teaches the claimed process of making a fiber reinforced plastic part, comprising: programming and control/movement of an extrusion head via conventional CNC machines (4:33-47); feeding a fiber reinforcement to the extrusion head (8:43-67 and 5:21-36); impregnating/mixing fibers with a radiation-initiatable resin or photopolymer (8:43-50 and 8:24-30); extruding a fiber/resin mixture (Fig. 1); exposing the extrudate to curing radiation (Fig. 1, element 44 and 5:8-13); and rotating the extrusion head which is mounted to an arm of the machine (Fig. 1, arrows near elements 30 and 51).

It is inherent that a CNC machine requires the input of a readable definition of the desired part.

Regarding claim 26: Khoshevis does not teach a take-away belt. Nonetheless, intermittent conveyors and or belt structures are well known in the molding as a means of removing molded parts from a forming area. At the time of invention a person having ordinary skill in the art would have found it obvious to have used an intermittent conveyor and or belt structure, as commonly practiced in the molding art, in the process of Khoshevis, in order to speed product removal from the forming area by an automatic means (ie. increasing overall production line speed).

Regarding claim 27: Khoshevis does not teach spraying the laminated with a surfacing material and then abrading/grinding the surface back to a desired dimension. Nonetheless, spraying a surfacing material on an article and then grinding or sanding off a portion of the applied finishing material is commonly practiced in the finishing art. At the time of invention a person having ordinary skill in the art would have found it obvious to spraying a surfacing material on an article and then grinding or sanding off a portion of the applied finishing material, as commonly practiced in the finishing art, in the process of Khoshevis, in order to form a product with a finish having a high degree of smoothness. (For example, the sanding between coats of paint or varnish applied to furniture.)

### ***Response to Arguments***

Applicant's arguments filed 23-MAR-2005 have been fully considered but they are not persuasive, because:

A.) Applicant's argument that Khoshevis does not teach any embodiment that does not require at least one trowel is not persuasive because the instant claim is an open claim and does not exclude use of a trowel.

B.) Applicant's newly added limitation, "hardens... as the impregnated fiber is extruded" is broad with respect to the distance from the extrusion orifice/die. Accordingly, the radiation from element

Art Unit: 1732

44 (Fig. 1) of Khoshevis would start to cure/harden the extrudate 'as it extruded' since the material is contacted by the radiation directly as it is extruded onto the substrate and the nozzle is moved out of the path of the radiation (see both elements 31 and 51).

C.) In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the material remains in position at the point of extrusion) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

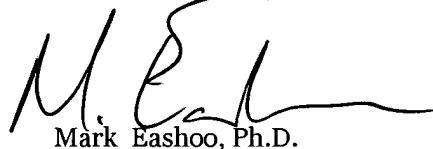
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (571) 272-1197. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mark Eashoo, Ph.D.

Primary Examiner

Art Unit 1732

05/May/05

May-05  
me